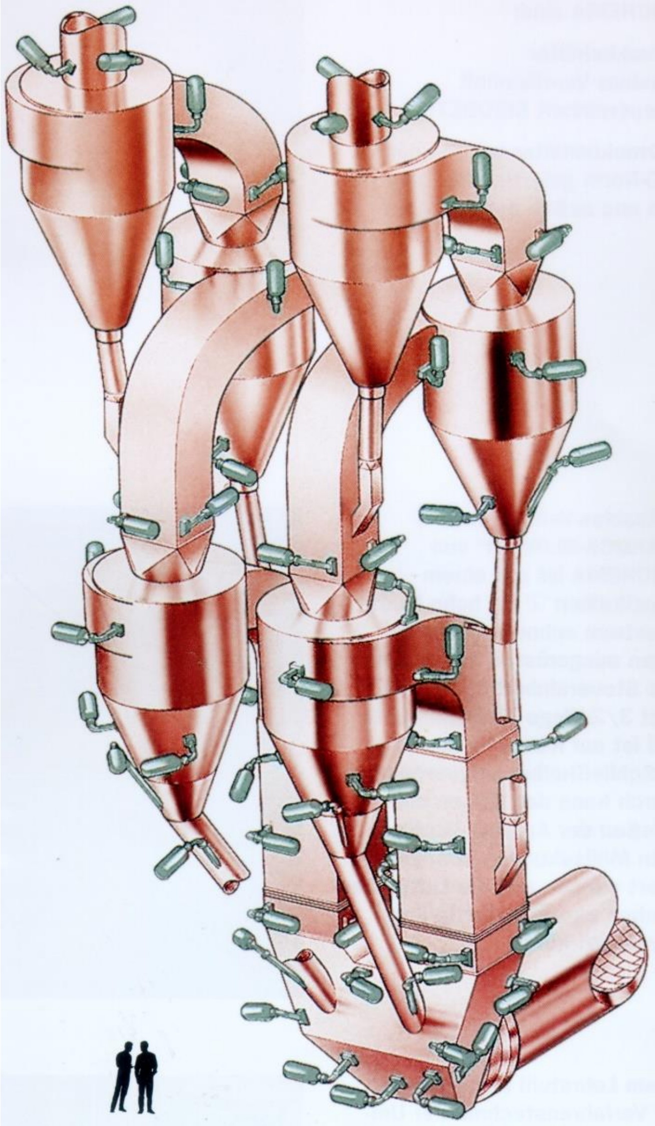
AGRICHEMA
SCHÜTTGUTTECHNIK

1990

AGRICHEMA is market leader in Germany with SHOCK-BLOWER® technique for high temperature



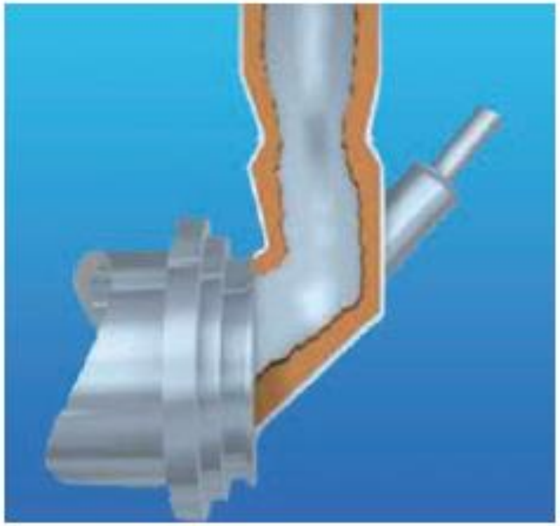
Introduction

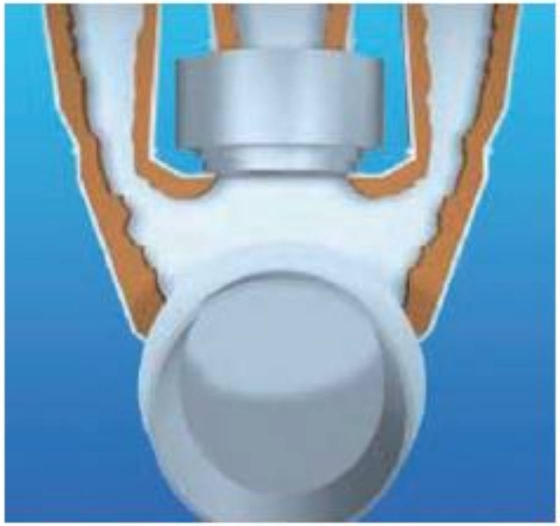
Caking and clogging of kiln lines in the cement industry disrupt the production process and reduce the availability of cement making facilities by:

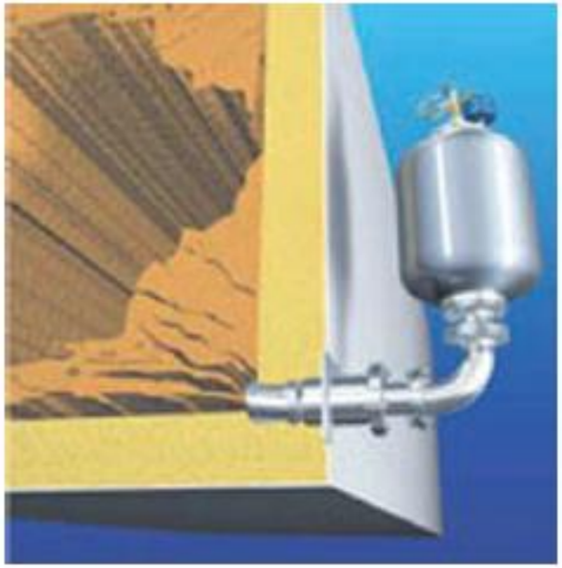
- reduced output of the kiln line
- fluctuations in clinker quality
- Increased energy consumption
- Elaborate and expensive cleaning work
- Increased health and safety risks whilst working in the hot kiln area

In order to minimise the effects of caking on hot kiln lines, air blast units have been used successfully for years.

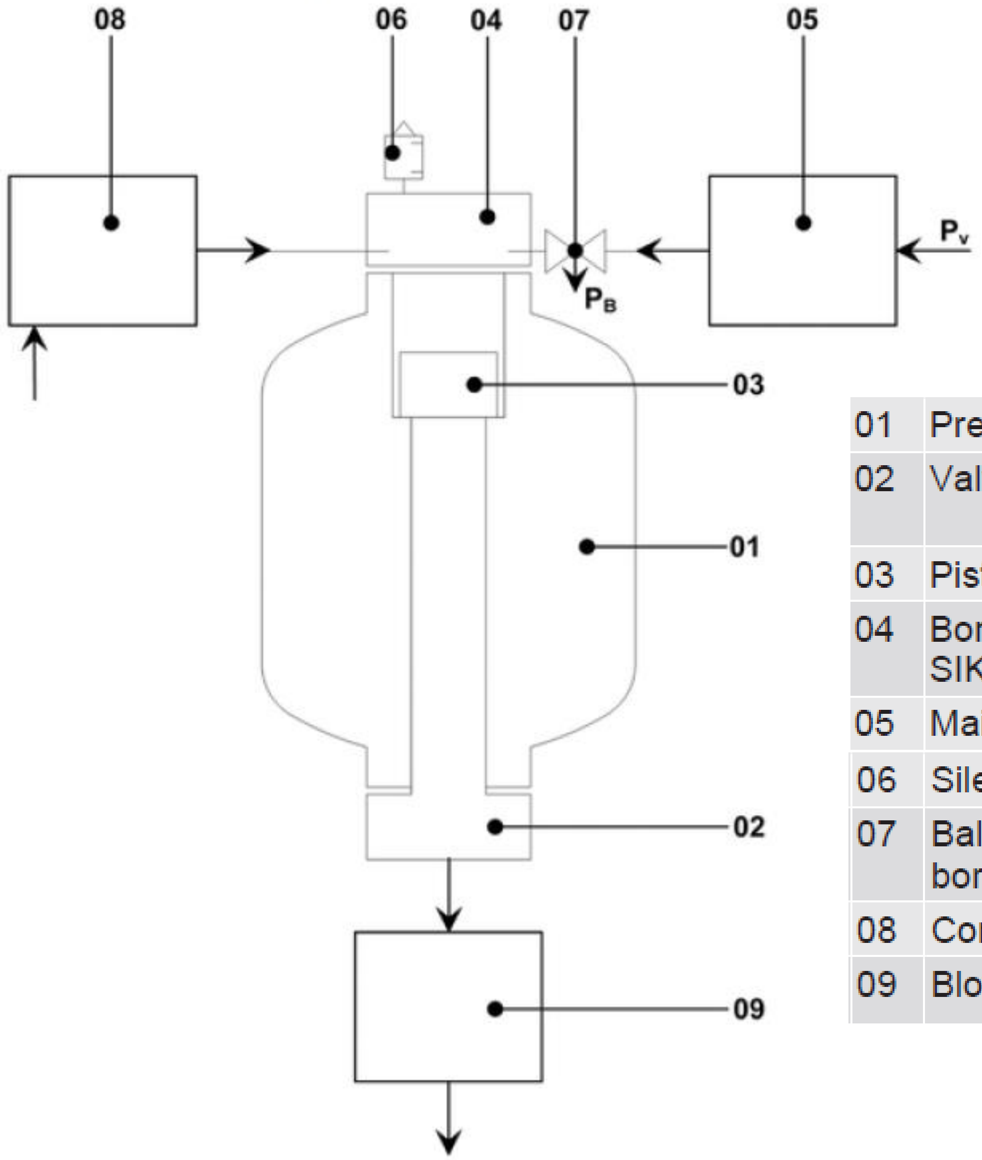
The pre-stressed compressed inside the air storage tank is released within milliseconds at high velocity between the edge of the caking and the furnace lining and blasts the caking away.







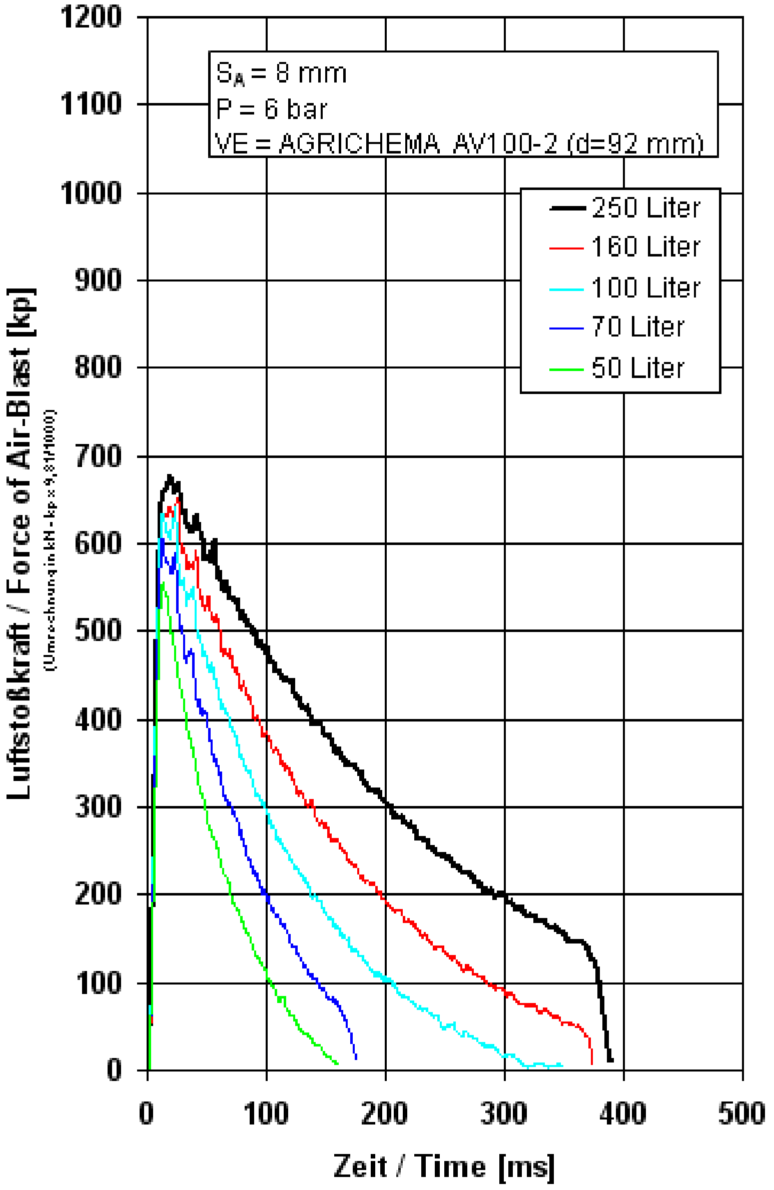
Overview of components



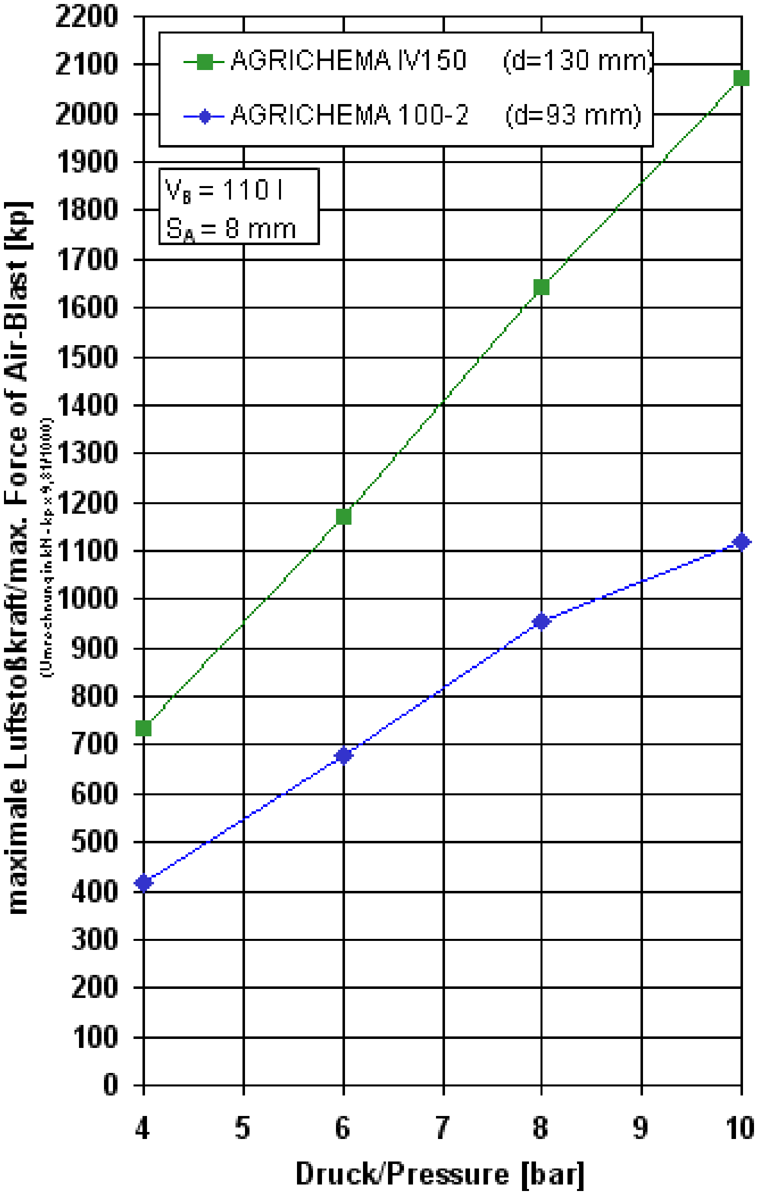
01	Pressure tank
02	Valve unit
03	Piston
04	Bonnet valve with control unit SIKOBETIC® / SIKOBETIC®-2 and solenoid valve.
05	Maintenance unit / SIKOBETIC® (optional)
06	Silencer
07	Ball valve with ventilation bore
08	Control (optional)
09	Blow-out system

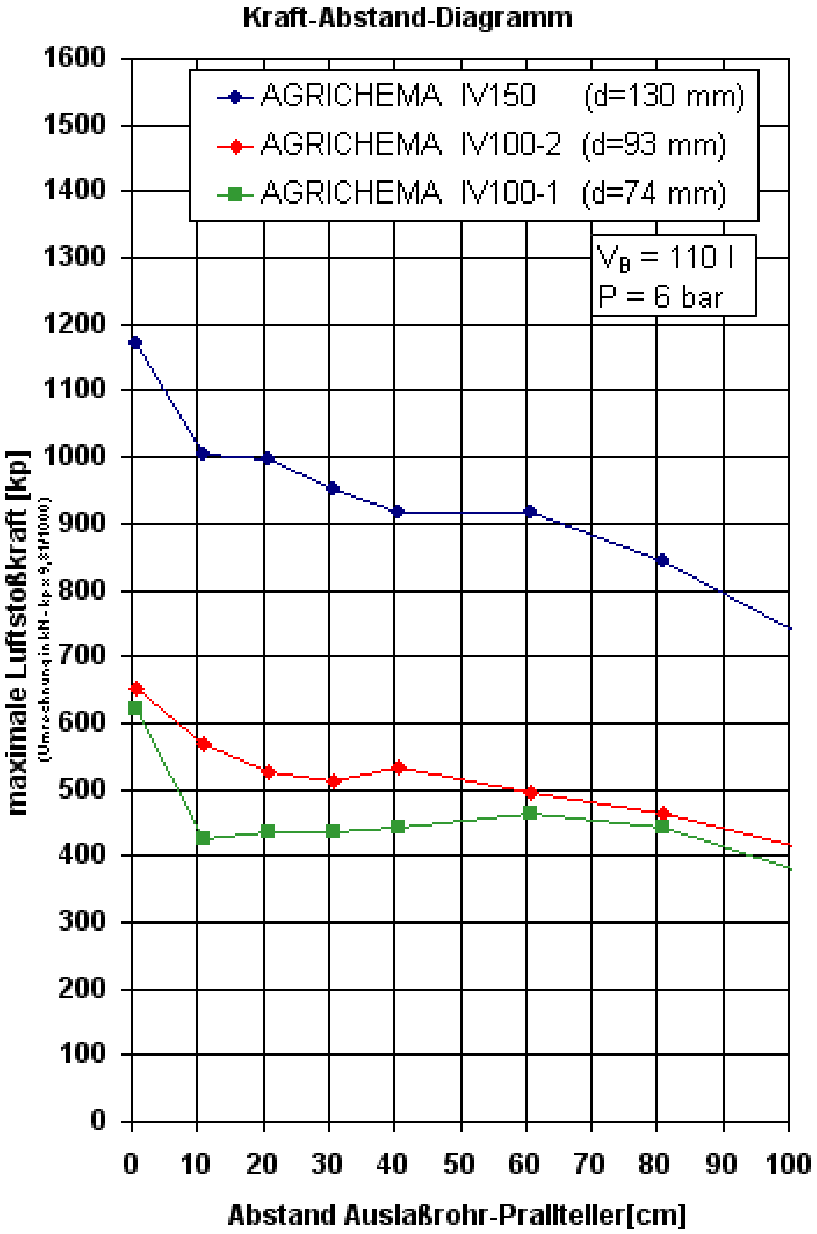
Scientific measurements

Kraft-Zeit-Diagramm / Force-Time-Diagram

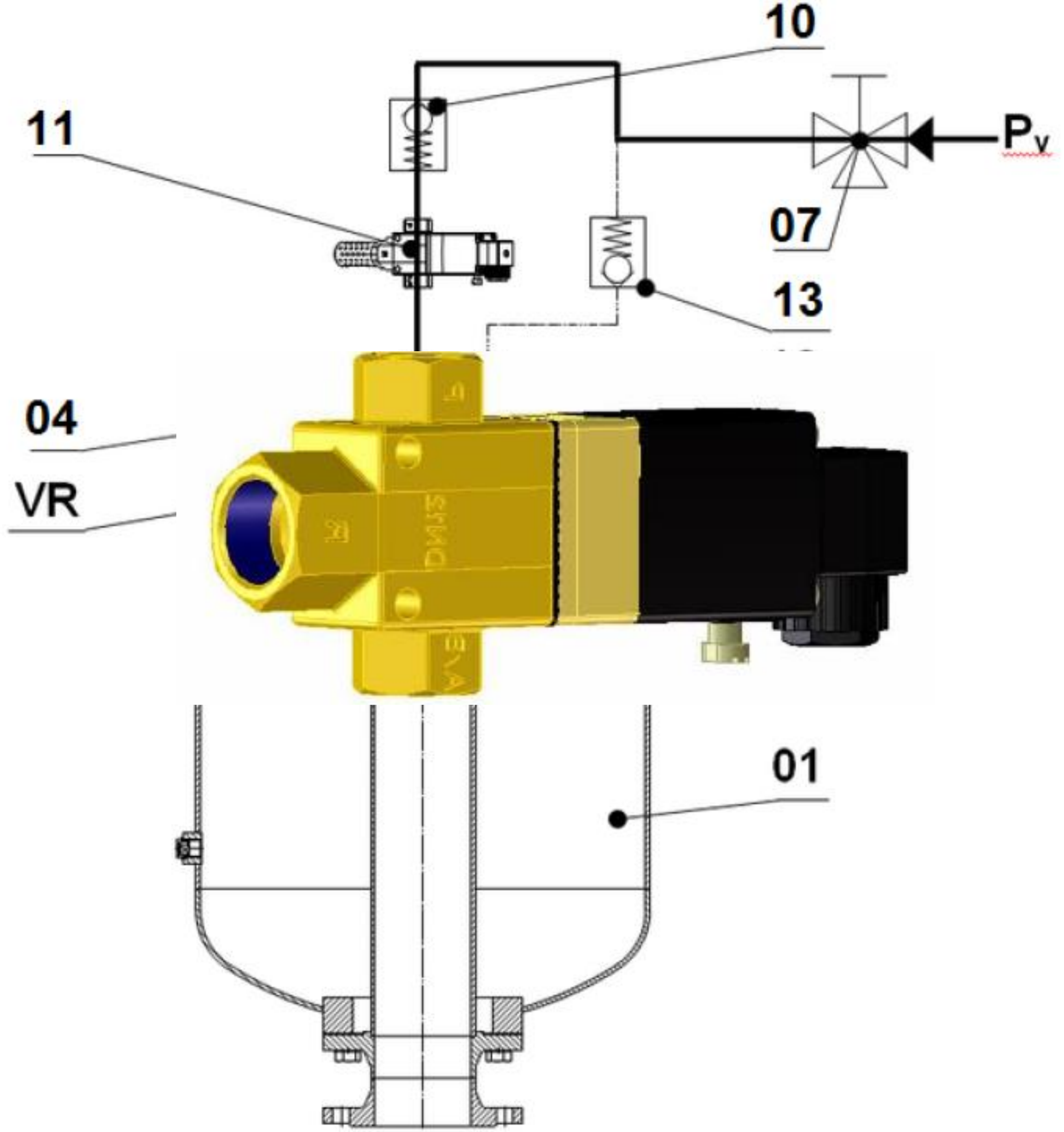


Kraft-Druck-Diagramm/Force-Pressure-Diagram




Kraft-Abstand-Diagramm
AGRICHEMA IV150 (d=130 mm)
AGRICHEMA IV100-2 (d=93 mm)
AGRICHEMA IV100-1 (d=74 mm)
V_B = 110 l
P = 6 bar
maximale Luftstoßkraft [kp]
(Umrechnung in kN - kp x 9,81/1000)
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
0
10
20
30
40
50
60
70
80
90
100
Abstand Auslaßrohr-Prallteller[cm]

SB-V H SIKOBETIC-2


Pv
VR

Filling

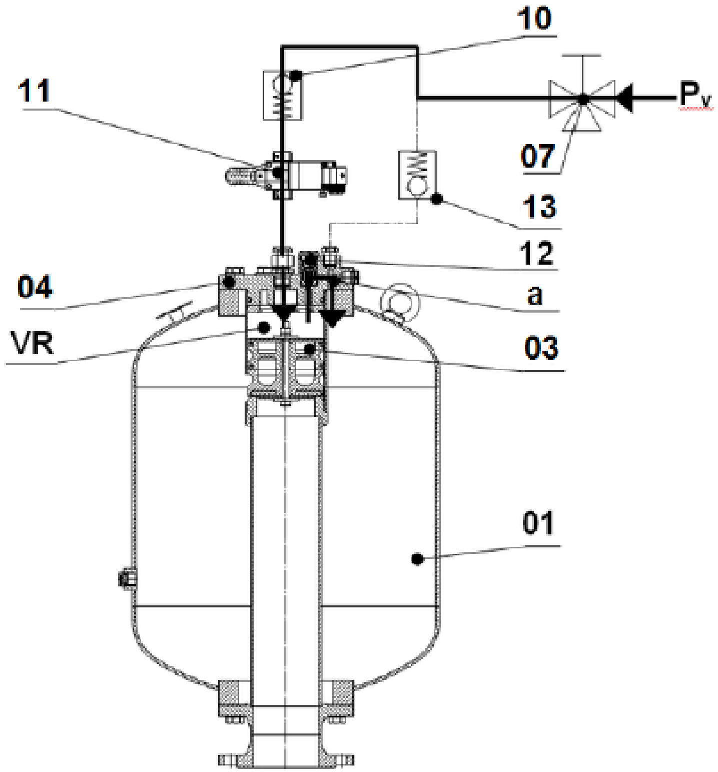


Illustration 6: Filling BB

In "idle position open" (P - A/B), the compressed air Pv flows through the ball valve (07), via the non-return valve (10) and the solenoid valve (11) into the piston antechamber (VR) and keeps the piston (03) reliably closed. Via the throttle bore (a) in the valve lid (04), the compressed air flows via the non-return valve (12) into the pressure tank (01). As soon as the pressure tank (01) has reached operating pressure, the device is ready for firing.

Note:
Through the non-return valve (13), the compressed air P_v cannot flow *into* the pressure tank (01) but *only out of* the pressure tank (01) (see **"Venting"** function).

Firing

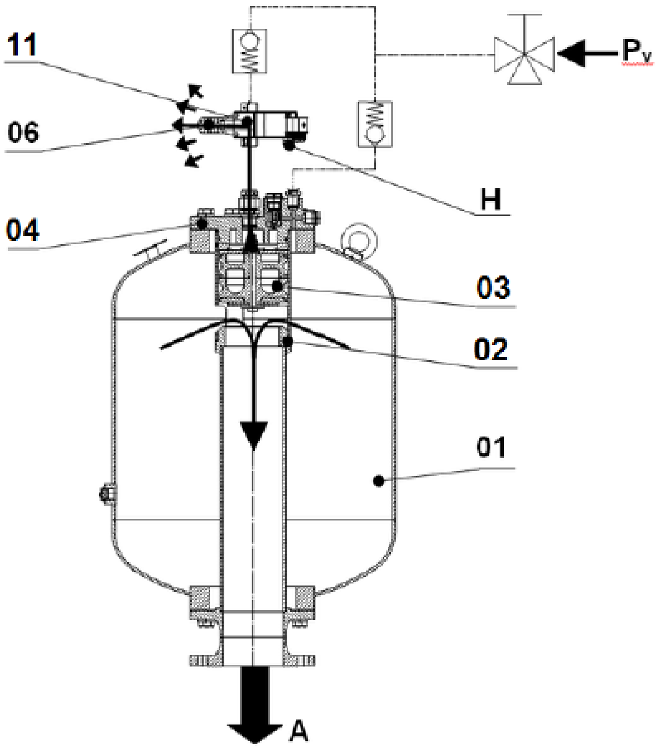


Illustration 7: Firing BB

By electrical or mechanical switch-over of the solenoid valve (11) from "Rest position opened" to "Work position closed", the compressed air supply is interrupted. At the same time, the compressed air in the piston antechamber (VR) is abruptly ventilated via the block valve (11) through the ventilation damper (06). Now, the piston antechamber (VR) is depressurized.

Then, the overpressure in the pressure tank (01) acts on the projecting circular ring area. This instantly presses the piston (03) upwards, allowing the compressed air stored in the pressure tank (01) to expand abruptly through the apertures arranged along the circumference of the valve unit (02) in direction of the blow-out point "A".

The device is fired by actuating the solenoid valve (11) (auxiliary hand operation (H) is provided for inspection purposes).

Venting

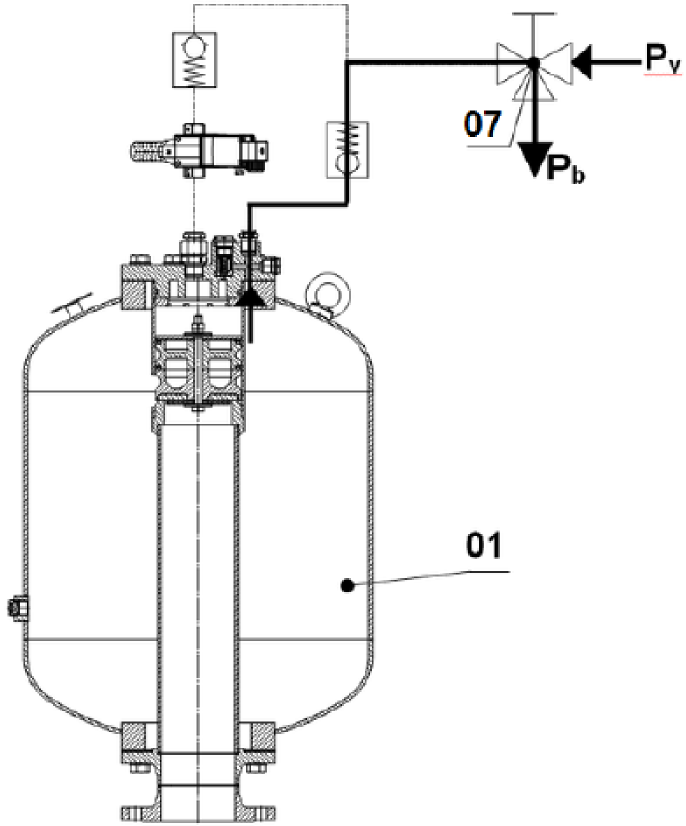


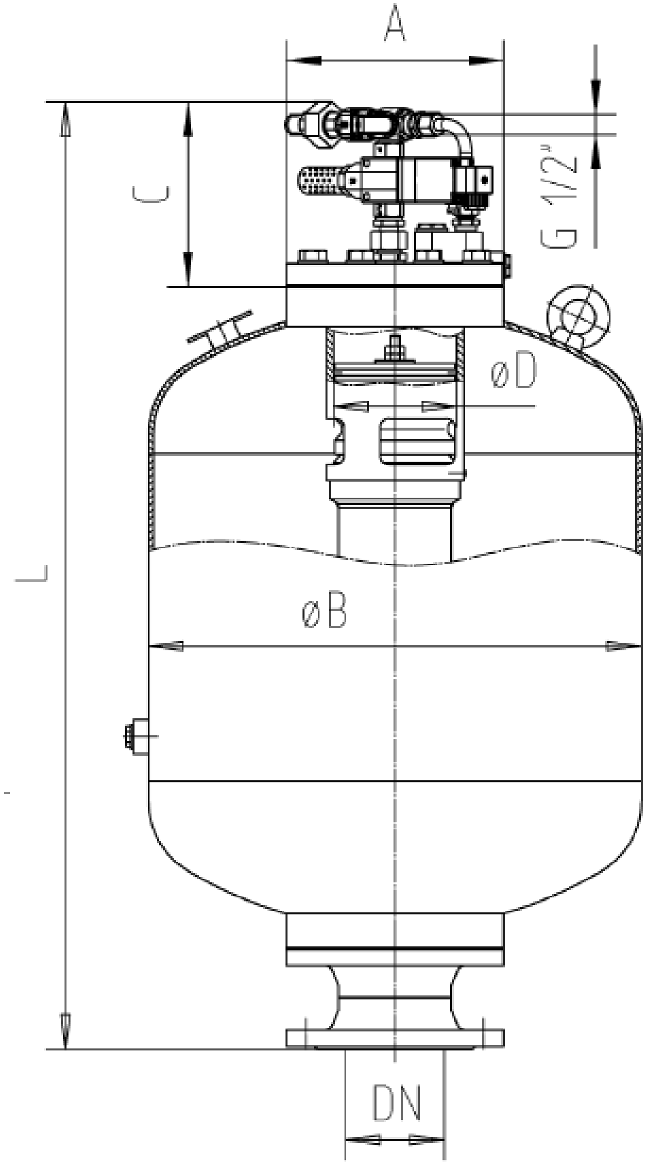
Illustration 8: Venting BB

Proceed as follows to de-pressurize the compressed tank (01) before maintenance and in particular before disassembly:

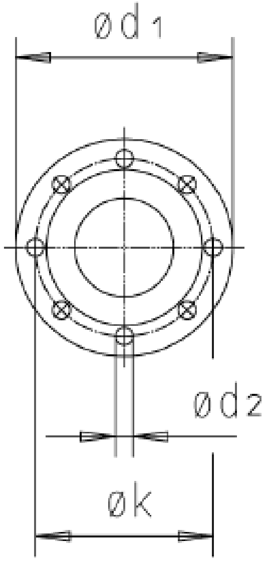
To de-pressurize individual devices, close the ball valve (07) and vent the device by means of the ventilation bore (Pb).

To de-pressurize several devices of a system, vent the ball valve of the valve at the SIWARTIC® and de-pressurize it. During this process, the ball valve (07) at the device remains in the position "OPEN", as during "Filling".

Dimensional sheet



„X“
DN 100/ DN 150

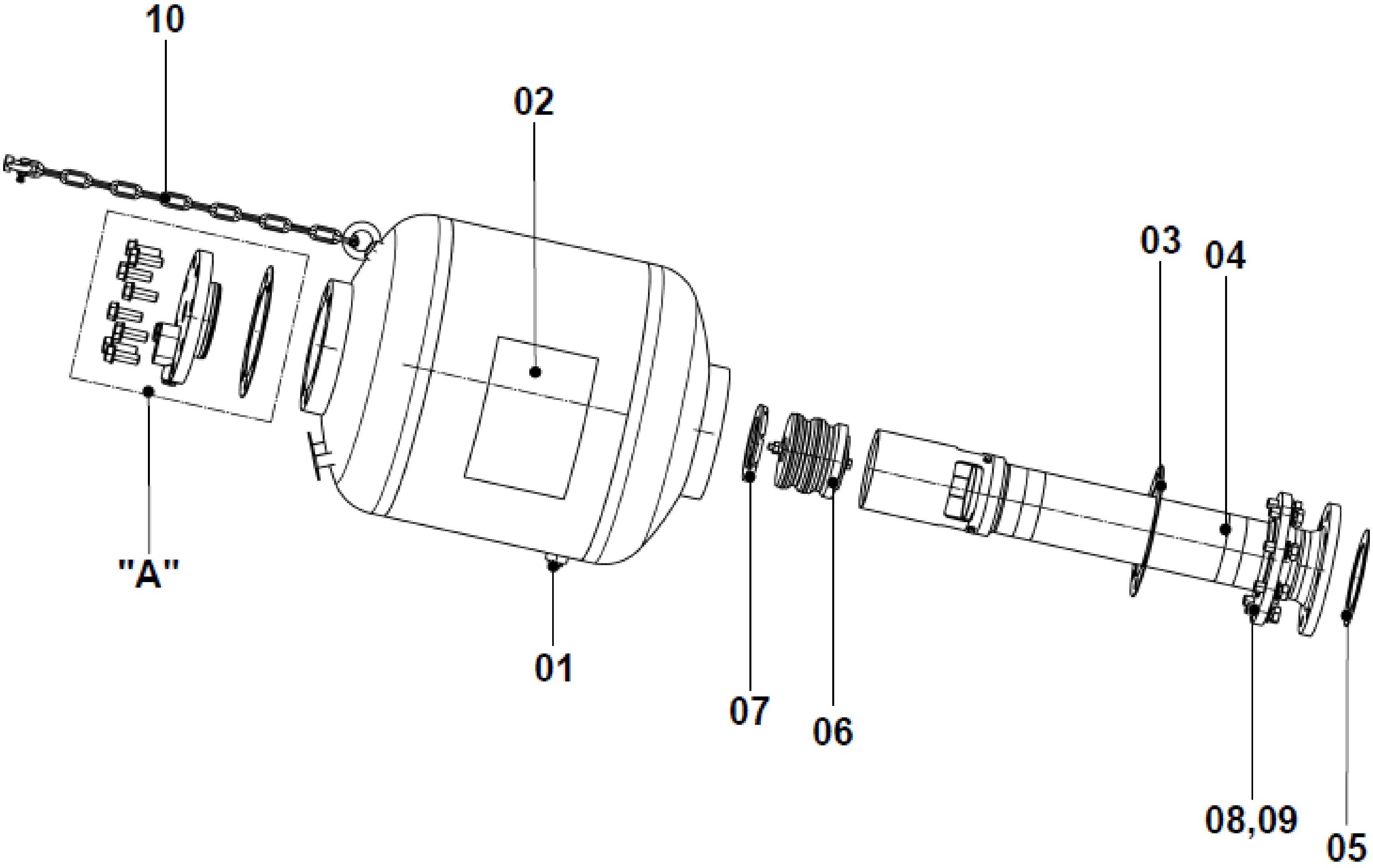


Size	Exhaust-pipe	Piston-diameter	Tank		Valve unit				
BV (dm^3)	DN	ØD	ØB	L	A	C	Ød1	k	Ød2
50	100	125	350	956	250	185	220	180	18
70	100	125	400	956	250	185	220	180	18
100	100	125	500	956	250	185	220	180	18
150	100	125	600	956	250	185	220	180	18
100	150	160	500	1017	285	240	285	240	22
200	150	160	500	1517	285	240	285	240	22
300	150	160	600	1517	285	240	285	240	22
500	150	160	800	1517	285	240	285	240	22

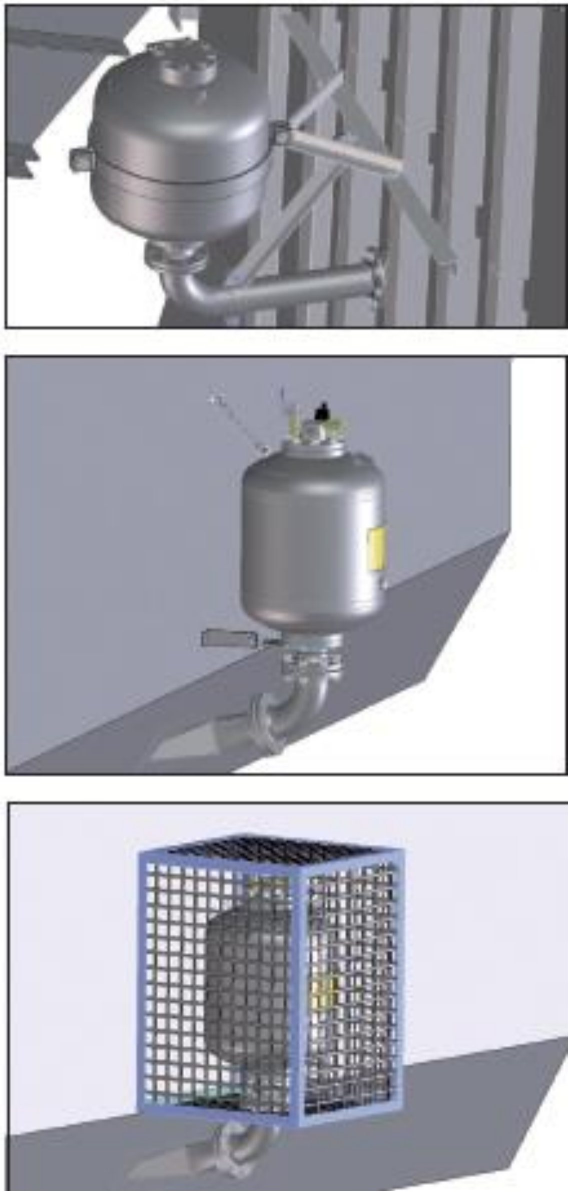
We reserve the right to change the devices with respect to the advancement of technology

Operating pressure: 4-10bar

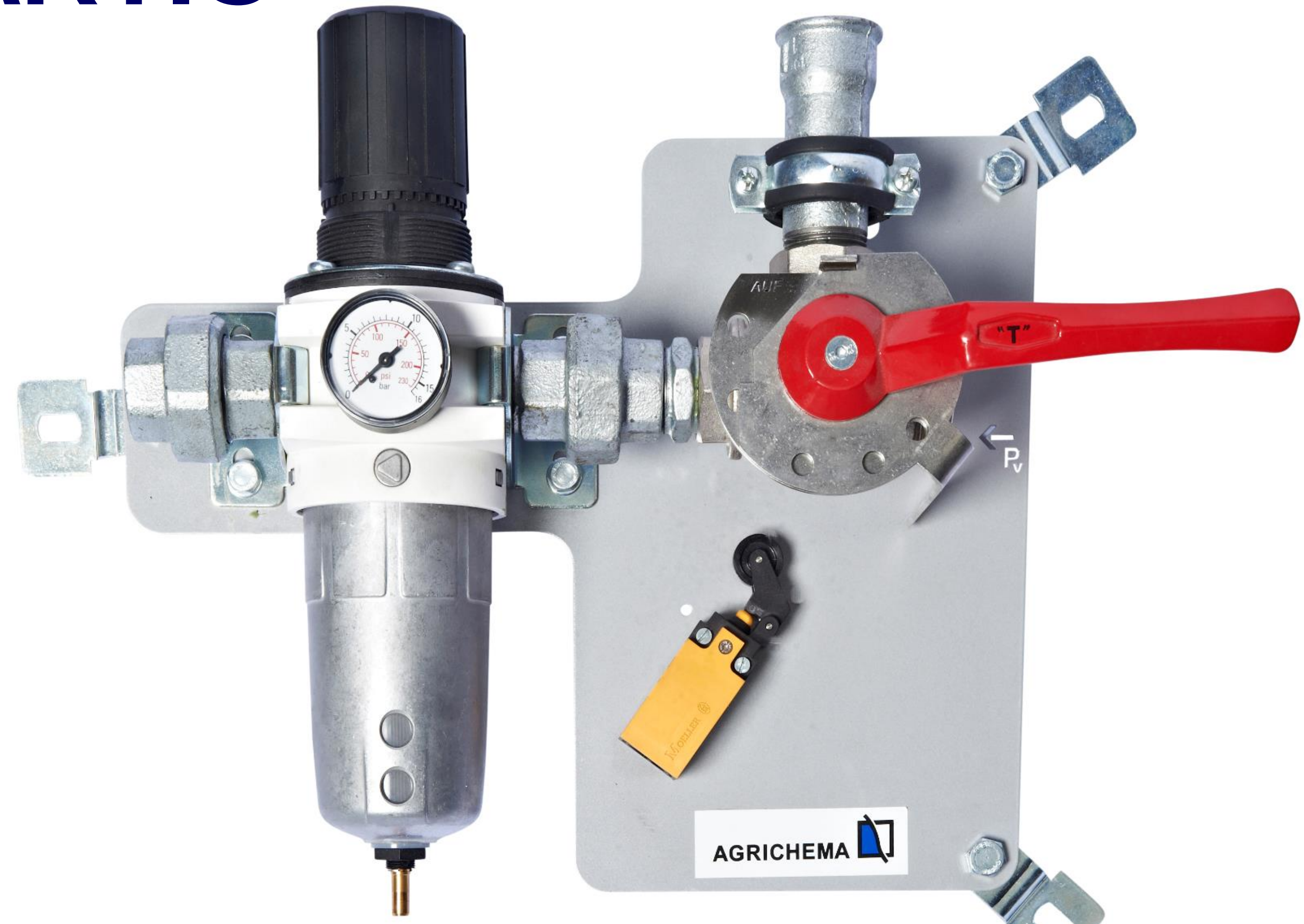
Connecting cross – section nec. 1/2”


10
02
03
04
"A"
01
07
06
08,09
05

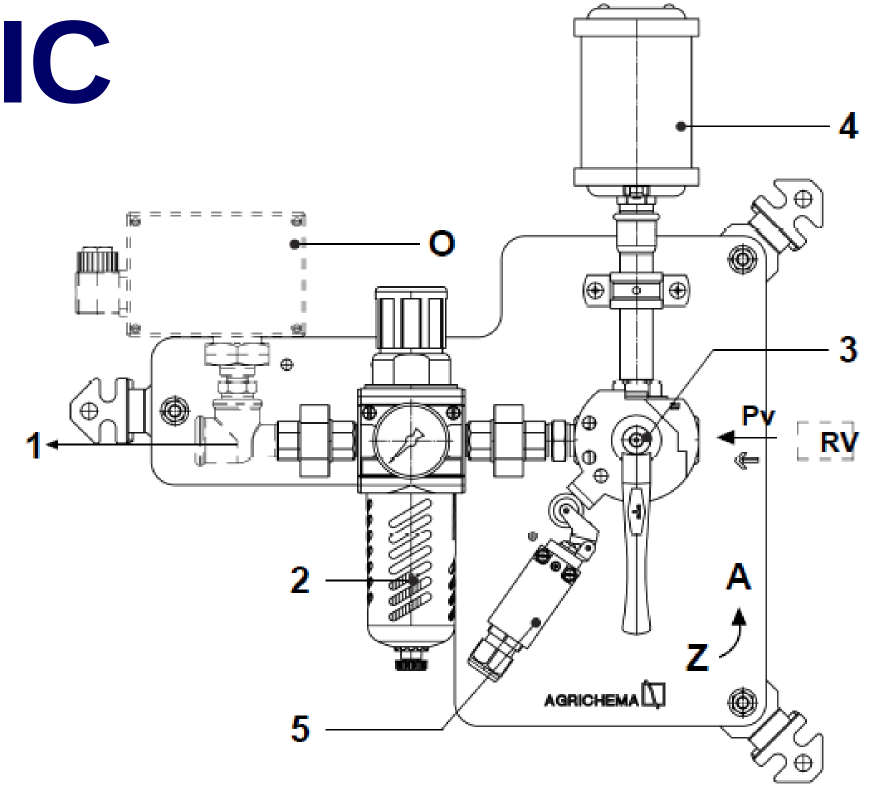
SAFETY

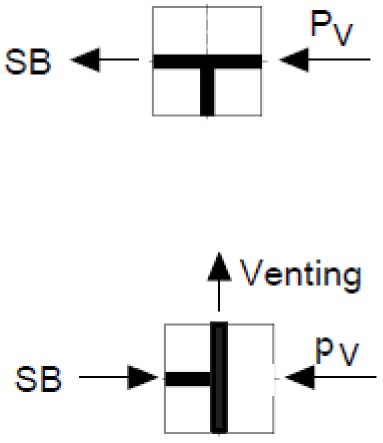


SIWARTIC



SIWARTIC





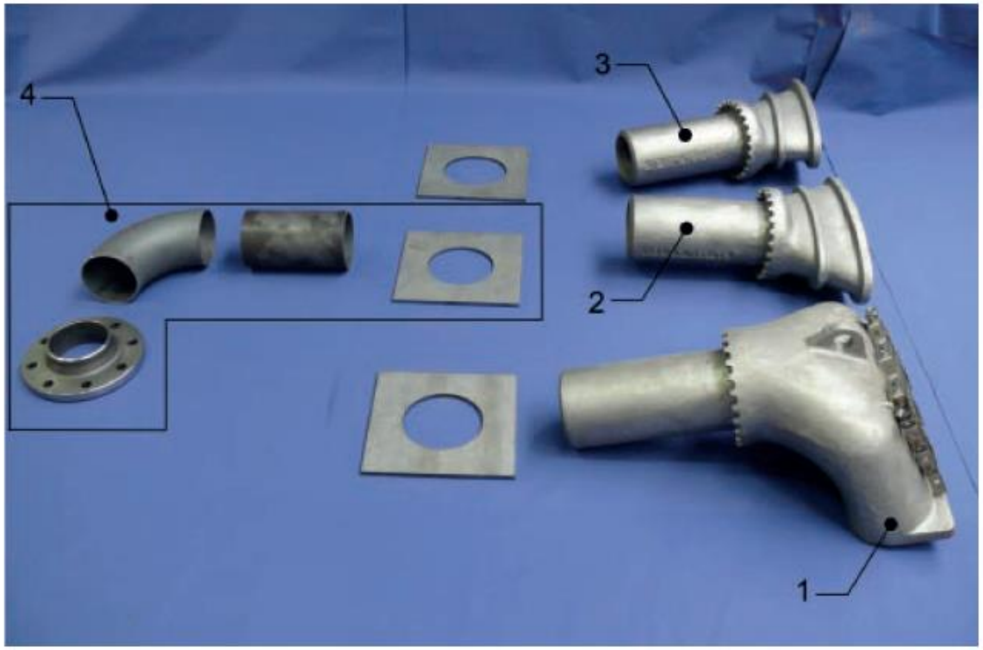
1	SHOCK-BLOWER®	O	Options ▪ Pressure transmitter ▪ Pressure switch ▪ Safety valve ▪ Check valve (RV) (only in conjunction with a safety valve)
2	Filter regulator		
3	3/2-way ball valve		
4	Sound absorber		
5	Limit switch ▪ Without a limit switch (optional) ▪ Inductive limit switch (optional)		
A	Lever position 'Open'		
Z	Lever position 'Closed'		

Heat Resistant Nozzle Systems

Hot Stuff – With System to Success

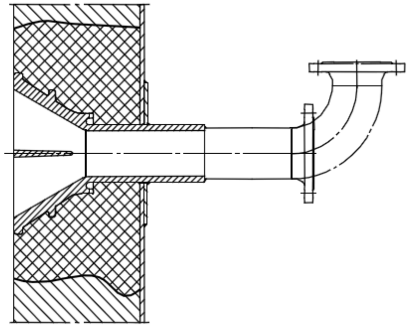
Heat-resistant nozzles

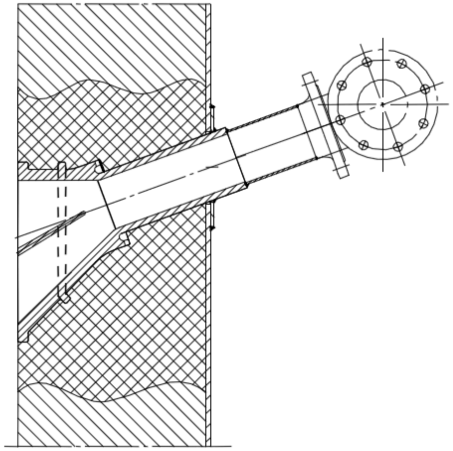
in brickwork

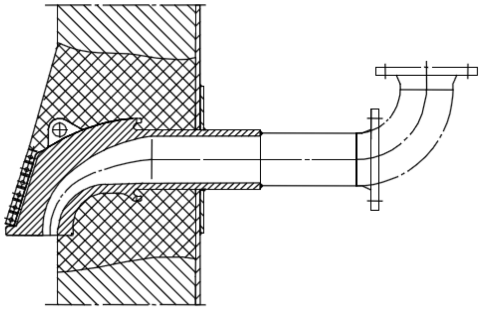


1. Heat-resistant nozzle 90°
2. Heat-resistant nozzle 0°
3. Heat-resistant nozzle 20°
4. Accessories for heat-resistant nozzles in brickwork

Brick Work





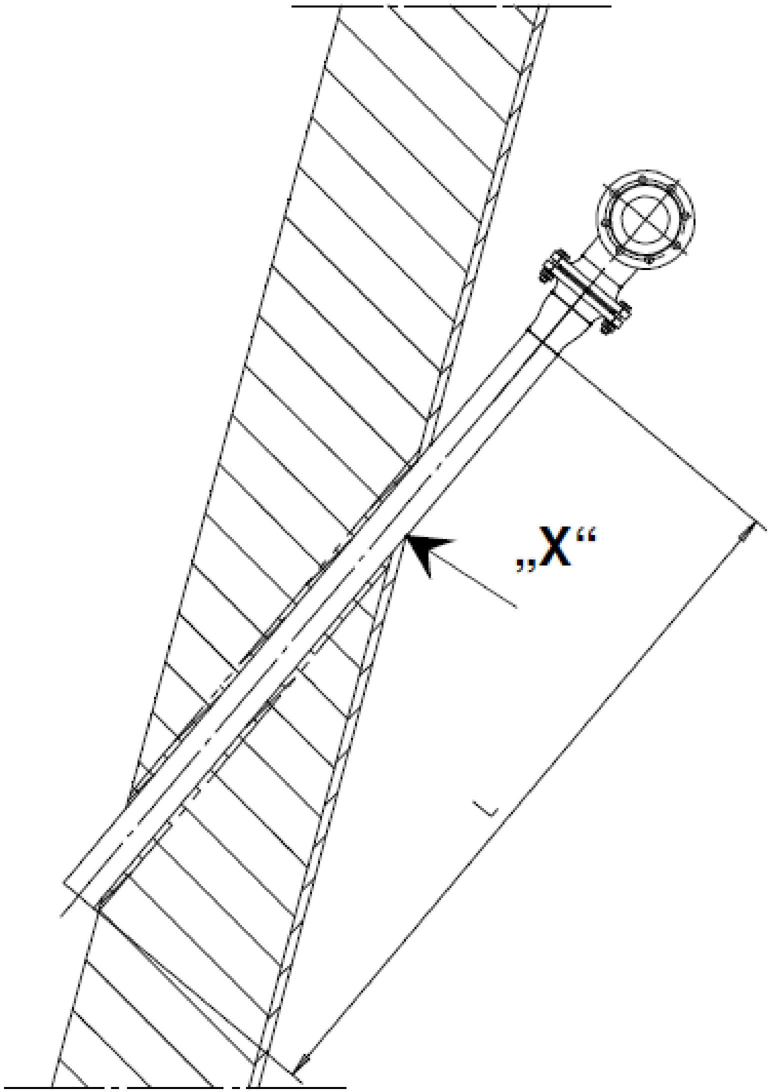


Ausblaswinkel 0°	DN100		**Ausblaswinkel 20°**	DN100		**Ausblaswinkel 90°**	DN100	
	DN150			DN150			DN150	

Our nozzles have a very special design which prevents the air from moving backwards to the wall. Since the air always seeks the way with the least resistance, this is an important feature to increase the efficiency of the shoot.

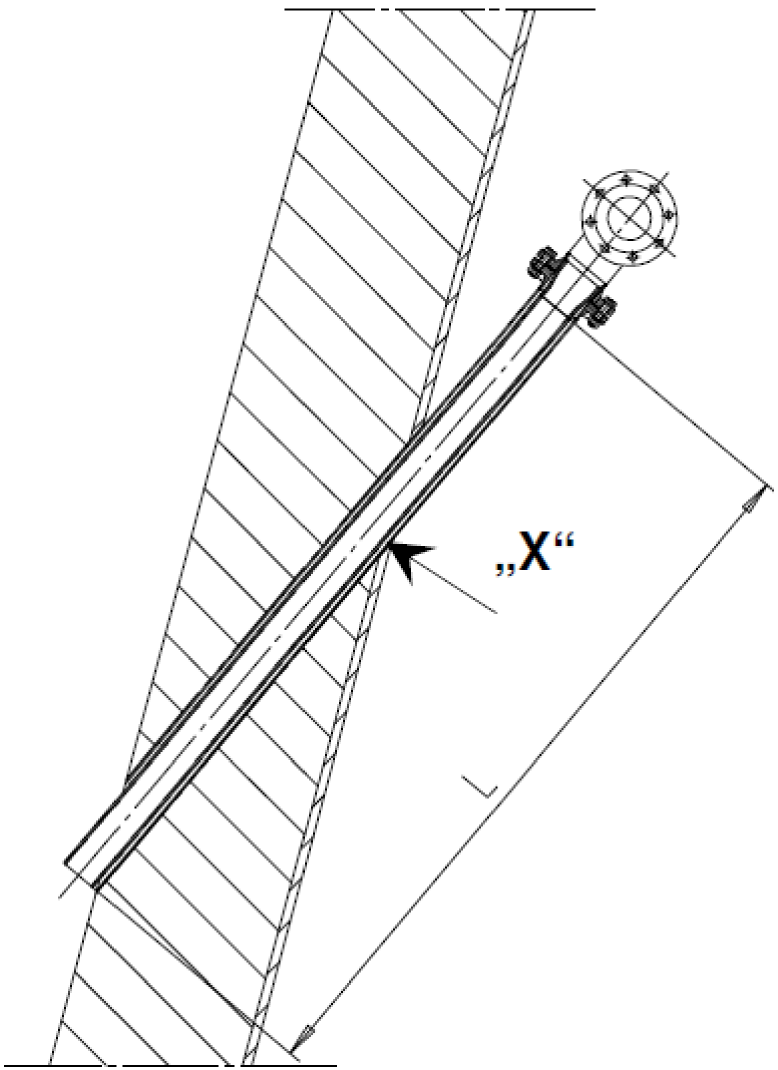
Heat Resistant Pipe

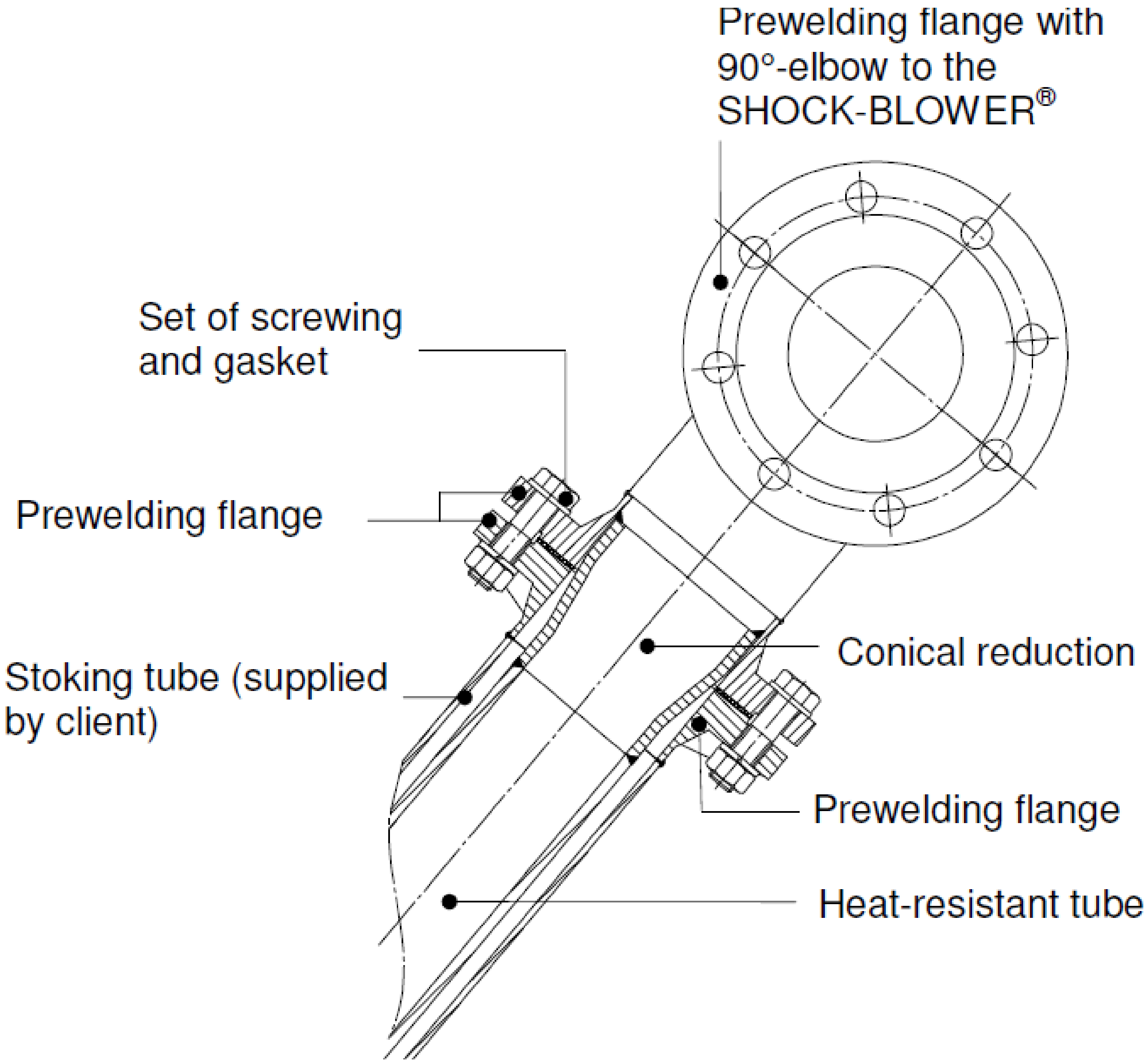
Welding



Heat Resistant Pipe

Exchange Pipe

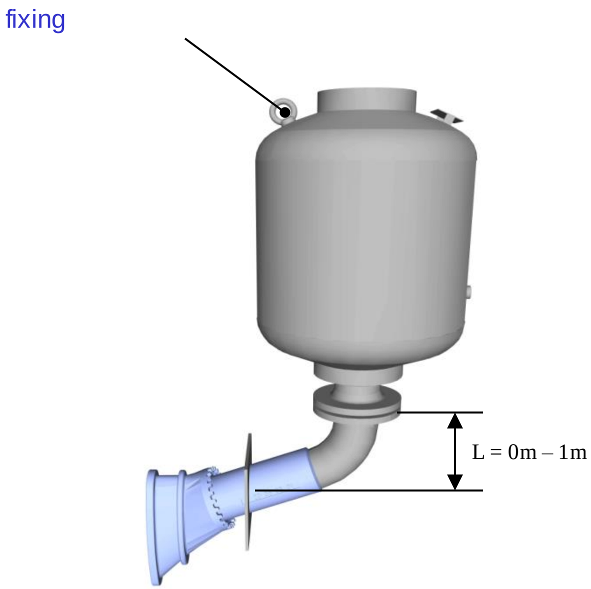


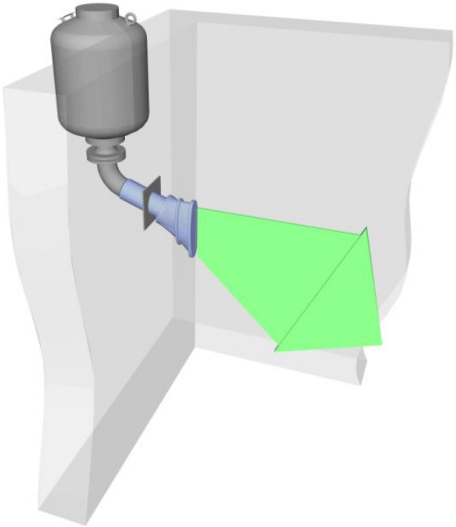

Prewelding flange with
90°-elbow to the
SHOCK-BLOWER®
Set of screwing
and gasket
Prewelding flange
Stoking tube (supplied
by client)
Conical reduction
Prewelding flange
Heat-resistant tube

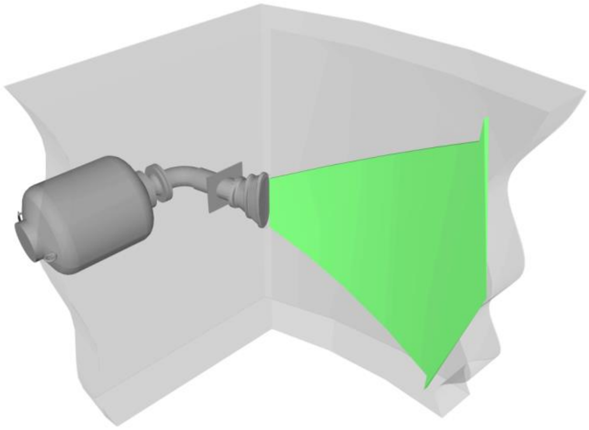
PIPING

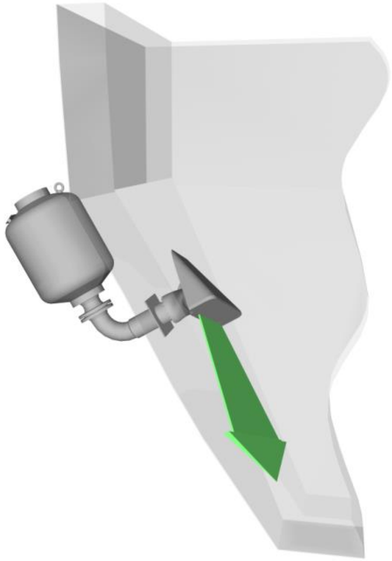
Without Piping

(L > 0 m up to 1 m)



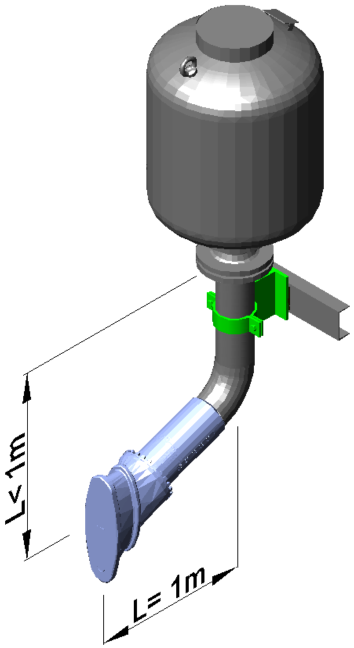


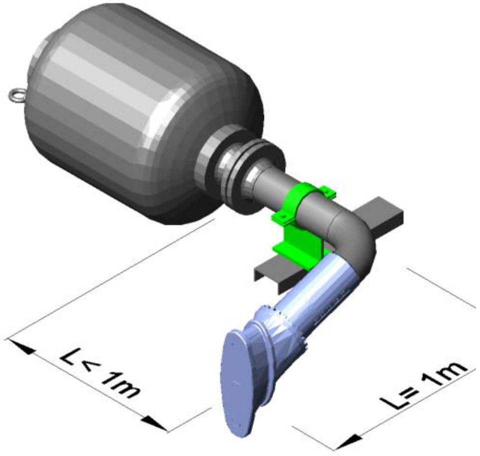


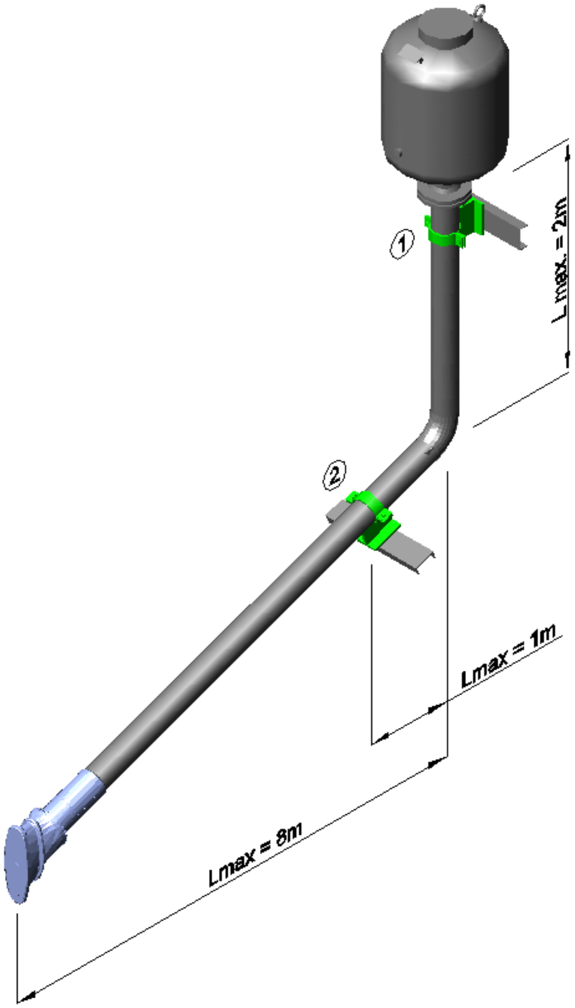


With Piping

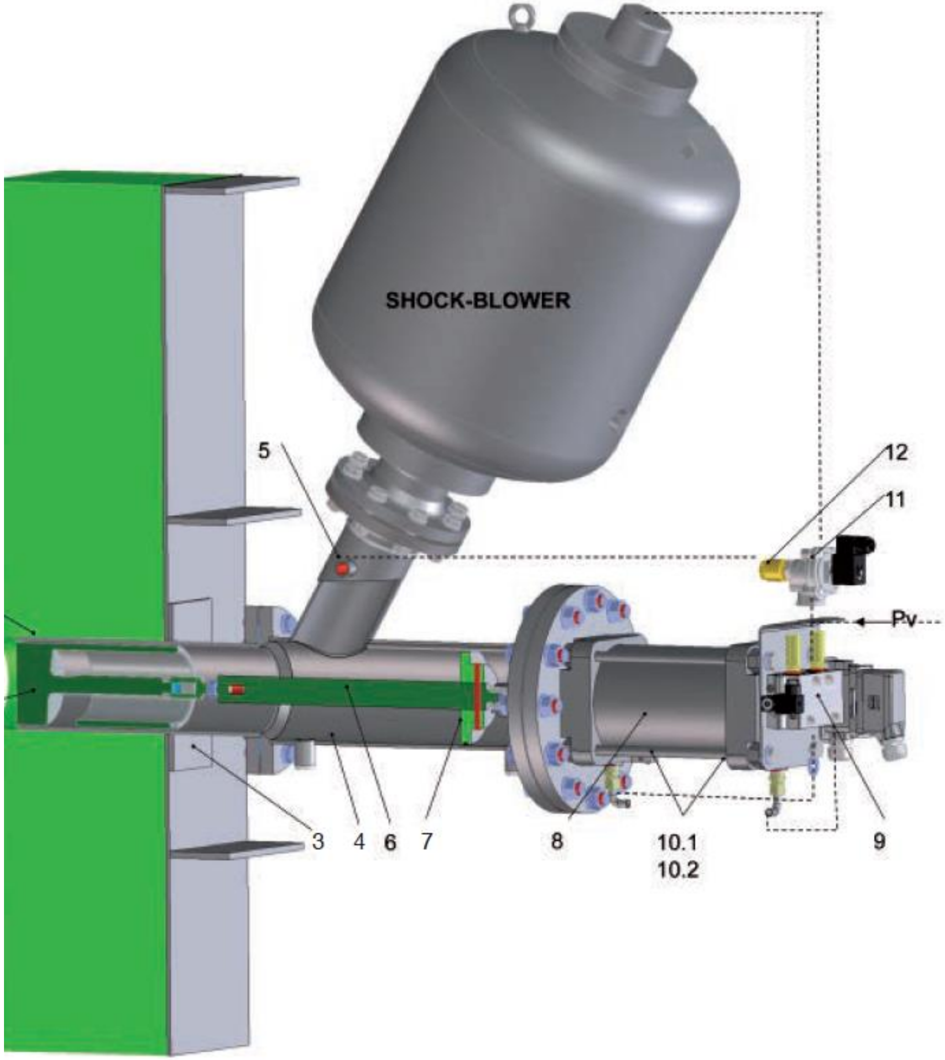
(L > 2 m up to 10 m)







Extendable heat resistant nozzle



Thank you very much for your attention

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